

Appendix I

CLAIMS ON APPEAL

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1. A system for monitoring and controlling a supply of an additive introduced into formation fluid within a production wellbore, comprising:

- (a) a flow control device for supplying a selected additive from a source thereof at a wellsite to the formation fluid being recovered from the production wellbore;
- (b) a flow measuring device for providing a signal representative of the flow rate of the selected additive supplied to said formation fluid in the production wellbore;
- (c) a first onsite controller receiving the signals from the flow measuring device and determining therefrom the flow rate, said first onsite controller transmitting signals representative of the flow rate to a remote location; and
- (d) a second remote controller at said remote location receiving signals transmitted by said first controller and in response thereto transmitting command signals to said first controller representative of a desired change in the flow rate of the selected additive;

wherein the first onsite controller causes the flow control device to change the flow rate of the selected additive in response to the command signals and the system supplies the selected additive such that it is present at a concentration of from about 1 ppm to about 10,000 ppm in the formation fluid recovered from the production wellbore .

2. The system of claim 1, wherein said first onsite controller includes a display that displays at least the flow rate of the selected additive supplied to the formation fluid.

3. The system of claim 1, wherein the additive is supplied to a selected location in the wellbore and a hydrocarbon processing unit processing the formation fluid at the wellsite.

4. The system of claim 1, wherein the flow measuring device is a positive displacement flow meter.

5. The system of claim 1 further comprising a program associated with said first onsite controller that enables the onsite controller to perform a plurality of on-board functions.

6. The system of claim 5, wherein said plurality of functions includes at least one of (i) determining the difference between the amount of additive introduced and a predetermined desired amount, (ii) calibration of the flow control device, and (iii) periodic polling of said flow measuring device.

7. The system of claim 1, wherein said first onsite controller is programmable (i) at the wellsite or, (ii) by said second remote controller.

8. The system of claim 1 further comprising a data base management system associated with said second remote controller.

9. The system of claim 8, wherein said second remote controller is adapted to communicate with a plurality of computers over a network.

10. The system of claim 1, wherein the flow control device is one of (i) an electric pump, or (ii) a pneumatic pump.

11. The system of claim 1 further including at least one sensor providing a measure of a characteristic of said formation fluid, said characteristic being the presence or formation of any of the group consisting of corrosion, sulfites, hydrogen sulfide, paraffin, emulsion, scale, asphaltenes, and hydrates.

12. The system of claim 11, wherein said system alters the supply of said selected additive in response to said measured characteristic.

13. The system of Claim 6 wherein the system includes redundant flow control devices which are controlled by the onsite controller.

14. The system of Claim 1 for monitoring and controlling the supply of additives to a plurality of production wells, said system further comprising:

- (a) a supply line and a flow control device associated with each of said plurality of wells;
- (b) a flow measuring device in each said supply line measuring a parameter indicative of the flow rate of an additive supplied to a corresponding well, each said flow measuring device generating signals indicative of a flow rate of the additive supplied to its corresponding well; and
- (c) a first onsite controller receives signals from each of the flow measuring devices and transmits signals representative of the flow rate for each well to a second remote controller which in response to the signals transmitted by said first onsite controller transmits to said first onsite controller command signals representative of a desired change in the flow rate of the additives supplied to each said well.

15. The system of claim 14, wherein the additive is injected into each said well at predetermined depths.

16. A method of monitoring at a wellsite, the supply of additives to formation fluid recovered through a production wellbore and controlling said supply of additives into the production wellbore from a remote location, said method comprising:

- (a) controlling the flow rate of the supply of a selected additive from a source thereof at the wellsite into said formation fluid via a supply line into the production wellbore;
- (b) measuring a parameter indicative of the flow rate of the additive supplied to said formation fluid and generating a signal indicative of said flow rate;

- (c) receiving at the wellsite the signal indicative of the flow rate and transmitting a signal representative of the flow rate to the remote location; and
- (d) receiving at said remote location signals transmitted from the wellsite and in response thereto transmitting command signals to the wellsite representative of a desired change in the flow rate of the additive supplied; and
- (e) controlling the flow rate of the supply of the additive in response to the command signals such that the additive is present at a concentration of from about 1 ppm to about 10,000 ppm in the formation fluid recovered from the wellbore .

17. The method of claim 16 further comprising displaying at the well site the flow rate of the additive supplied to the formation fluid.

18. The method of claim 17 further comprising a manual override of controlling the flow rate of the supply of the additive by performing a function selected from (i) setting a flow rate of the additive, (ii) setting a range of allowable values for the flow rate of the additive, and (iii) combinations thereof.

19. The method of Claim 16 additionally comprising the step of using at least one sensor providing a measure of a characteristic of said formation fluid, said characteristic being the presence or formation of any of the group consisting of corrosion, sulfites, hydrogen sulfide, paraffin, emulsion, scale, asphaltenes, and hydrates.

20. The method of Claim 19 further comprising altering the supply of said selected additive in response to said measured characteristic.